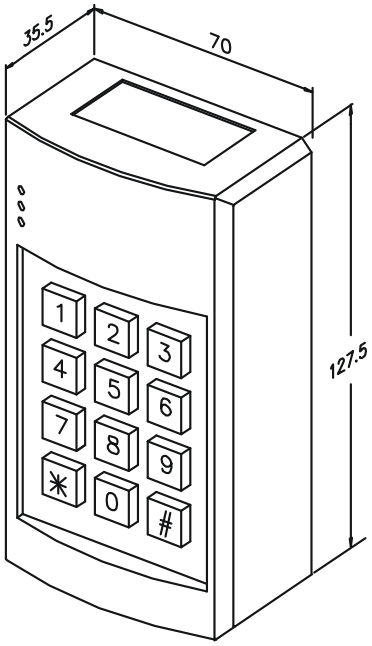
GEM® GIANNI INDUSTRIES, INC.

DG-600 Standalone Proximity Reader
Operation User's Manual



Unit:mm

I. Product Characteristic:

- DG-600 has a 600 cards and PIN codes capacity and a reading time of 0.5-second max.
- Transmitted to the host with extended Wiegand format auxiliary reader.
- The Unit will operate with card only, PIN or card, PIN + card.
- The logical memory does not allow duplicate cards to be programmed.
- The host unit will lockout for 60 seconds if 5 incorrect password attempts are entered.
- Beeper sound gives positive signal of all keypad activations.
- Build in tamper switch that turns on alarm relay to ensure vandal proof operation.
- Non-volatile memory stores all programmed information for at least 10 years, even in the event of total power failure.
- Removable memory chip in the main control module allows on site replacement in the event of break down.
- Fully Programmable via keypad and master code

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II. Specifications:

Operating Voltage	DC +8.5V to 16V
Current Draw	Average 50mA, Peak 100mA @ 12Vdc
Transmitting Frequency	125 KHz
Memory Volume	600 Proximity cards/tokens and PIN codes
Read Range	Up to 10 cm (Depending on local installation conditions)
Keyboard	12 digits keypad (0~9, *, #)
Input	Request-to-exit, door reed switch, auxiliary reader
Relay Electric Current	2A MAX @30Vdc ；0.4A @ 120Vac
Invalid PIN Lock-out	The system will shut down for 60 seconds while 5 times of incorrectly Master Codes enrolled or PIN codes attempted （None beeper signal of keypad activations）.
Relocking timer	◆ Strike Time: 1~99 seconds (adjustable) ◆ Strike mode: Access Timer or Latch
Alarm Function	◆ Door Held Open Alarm: 10~990 ◆ Door Forced Alarm ◆ Panel Temper Alarm
Format	DG-600E: Wiegand 44 or 26-bit only format (adjustable), hexadecimal (Em 64-bit standard R/O or compatible)
	DG-600H: Wiegand 26~37 or 26-bit only format (adjustable), hexadecimal (125KHz 26~37-bit R/O or compatible)
Case Material	ABS (UL94V0)
Color	Dark gray/ Beige White
Operating Temperature	-20~+70℃
Ambient Humidity	5~95% relative humidity non-condensing
Visual Signals	3 LED display with audible indication (Red/Yellow/Green)
EMC	Meet CE requirement

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III. The indicator signal chart:

Sound and LED indicator:

	Mode	Signal	Condition
LED signal	User Signals	Yellow LED (Flashing slowly)	Power on, Stand-by
		Green LED	Valid entry, lock relay active
		Red LED	Warning, Invalid Card or code, Tamper
	Programming Signals	Yellow LED	Programming mode entered
		Yellow LED (Flashing)	Card has been read, awaiting input of PIN codes
		Green LED	Slot Position ready to store card
		Red LED	Memory slot already has a card registered
Sound signal	User Signals	1 Beep	Card presented、Any key pressed
		4 Beeps	Invalid card 、 Data computing error
	Programming Signals	1 Beep	The input data is correct 、 Enters or Exit Programming mode
		4 Beeps	Input mistake, or other operation mistakes, duplicate card

Default Settings：

Access Mode	Read Card only (00)
Format	All bits（44-bit or 26~37-bit）
Card register	None
Master Codes	12345 (5 digits)
(All) Alarm function	Defeat able (00)
Relocking timer	5 seconds
Pressed key delay time (Time Out)	5 seconds
Waiting input PIN codes time	5 seconds
Setting mode delay time	25 seconds

Terminal connections:

CN1	Contacts on block for the system	CN2	Contacts on block for auxiliary reader
12	+ 8.5 ~ 16 Vdc	12	+ 8.5 ~ 16 Vdc
V	GND 、 Power ground	V	GND 、 Power ground
D	Electrified lock	D1	DATA1 Wiegand Data 1
C	Electrified lock, Alarm Common (COM)	D0	DATA0 Wiegand Data 0
A	Alarm Common	LED	LED contact
E	Door reed switch	BEEP	Beeper contact
B	Request-to-exit		

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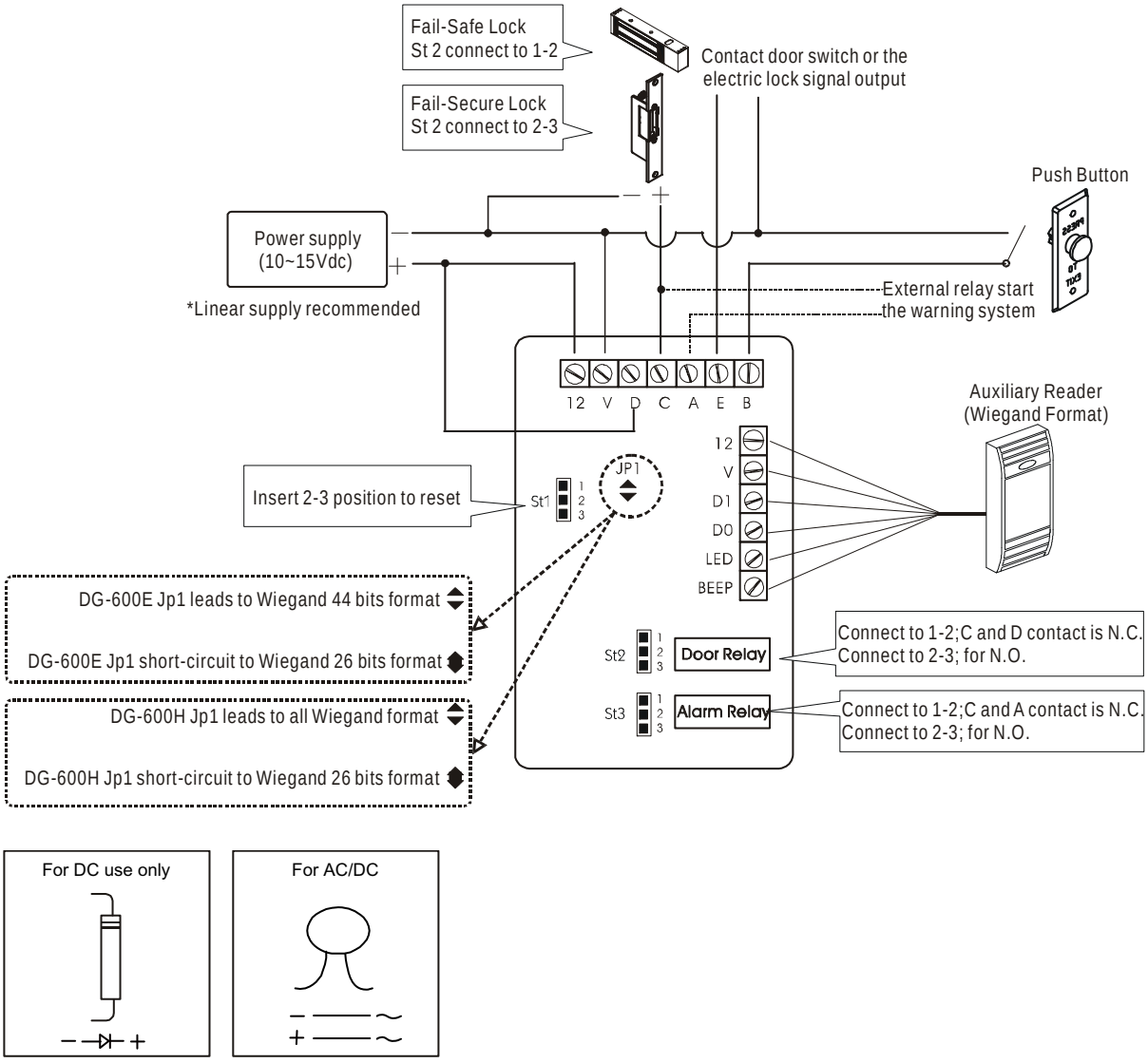
IV. Wiring diagram:



Note:

1. DG-600 auxiliary reader must not be further than 20 meters from the host. Also this reader should be nearer than 30 centimeters, to avoid disturbance. The suggested wire gauge is #22~26 AWG.

2. DG-600E important instructions: At the back of the main PC board JP1 (see wiring diagram). The system storage card form is Wiegand 44 bits. When you have Wiegand 26 bits auxiliary reader, please do use the solder to short JP1 to turn to Wiegand 26 bits (HEX) form, the auxiliary reader stores different card, this produce invalid card readings

3. DG-600H, the card storage form is Wiegand. If short-circuits JP1 turns Wiegand 26 bits form, can only read Wiegand 26 bits to the system.

4. DG-600E, DG-600H when JP1 has the change, there's a possibility the card stored would be invalid. Reset to input the card.

5. The door strike must have a vartistor or a diode across the door strike terminals to suppress the back EMF of the strike - failure to do so will damage the relay contacts and electronic components.

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6. Egresses switch is in N.O. Condition.

7. Alarm system use (C.A. contact) start with external relay.

8. Using a Linear supply power recommended, to prevent power reduction at the card reader.

Warranty:

The product is warranted against defects in material and workmanship while used in normal service for a period of 1 year from the date of sale to the original customer .GEM policy is one of continual development and improvement , therefore GEM reserves the right to change specifications without notice.

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V. Operation Instruction

WARNING: **Please read all of operation instruction before proceeding.**

■ Enter Program Mode

Enter twice the master code : (Default setting is "12345") → Yellow LED will light up → you are now in the “Programming Mode”.

■ Exiting from the Program Mode

Press「#」→ to exit from the programming mode, or if no activation has happened for 25 seconds , the system will return to the user mode.

■ System Setting Access Mode

Enter the Programming Mode, Press「＊0」+「??」

A. Proximity Only: For Using Card/Tag Only.
   ?? = 00, setting complete.
B. Proximity or PIN Code to open the door:
   ?? = 01, setting complete.
C. Proximity + PIN to open the door: Card followed by PIN code to enter.
   ?? = 02, the setting is complete.

Note 1: After using the proximity card the yellow LED blinks and input the PIN codes. If wrong PIN code is input it will automatically return to the “User Mode”.

Note 2: 5 continuous wrong pin codes will automatically deletes the card.

■ Adding and deleting cards

Enter the Programming Mode, Press the card storage slot code： 000~599

A. Green light comes on: This slot code may register the card
   I. Show card to reader→Yellow light blinks → input 5 digits PIN codes → Green light off→ enrolled completed →（repeat）
   II. Show card to reader→ (4 audible beep) another card has already been input (duplicate card).
B. Red light comes on: This slot already has a code registered
   I. Press「＊＊」(deletion) → Green light comes on → Show card to reader →〔same as step “A-1”〕
   II. Enter another slot card position.

Note 1: Regardless of system setting access mode select, you must enter a 5-digit PIN codes after showing the card to complete the register program, otherwise the card input will not be successful.

Note 2: The master code are not be used for PIN code.

■ Relocking timer setting

Enter the Programming Mode, Press「＊1」+「??」

A. Pulse mode:?? = 01~99 seconds, 05 represents 5 seconds → (An audible beep) indicates setting successfully→to exit from the programming mode, or program other operating.
B. Latching mode:?? = 00 → (An audible beep) indicates setting successfully→to exit from the programming mode, or program other operating.

Note: Enter「00」Sets the relay to latching mode. (Correct code or card entered opens the relay, and the relay stays open until the correct code or card is entered again).

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■ Alarm Function

Enter the Programming Mode, Press 「＊2」+「??」

A. Alarm Setup: Input time ,「??」 = 01~99, 05 represents 50 seconds.

B. To turn off alarm function: Input 「00」

Example 1: Door Held Open Alarm

If the relocking timer is set for 5 seconds, and the Alarm Setup is set for 10 seconds, the following will happen:
If the door has been opened via a valid card or PIN codes, but has remained open for more than 15 seconds then an audible alarm will sound and the RED LED will flash and remain until the door has been closed correctly.
This activation is controlled, using contacts 「E」 and 「V」.

Example 2: Door Forced Alarm (same example)

If the door is opened without the use of a valid card or PIN codes, the audible alarm will sound and the RED LED will flash and remain until the door has been closed correctly.
This activation is controlled, using contacts 「E」 and 「V」.

Example 3: Panel Tamper Alarm

The main panel has a anti-tamper micro switch installed, if the main panel is opened, the audible alarm will sound and the RED LED will flash and remain until the panel has been closed correctly.

■ Changing the Master codes

Enter the Programming Mode, Press 「＊3」+「?????」the new 5 digit master code →（An audible beep）→enrolled completed→Enter 「#」 to exit from the programming mode, or program other operating.

■ Reset Function

A. To Reset the master code only (Return to default setting "12345")
Insert the jumper ST1 2-3 position→Green LED will flash→An audible beep→ completed →Return Insert the jumper ST1 to 1-2 position

Note: Remove jumper after Yellow LED has been flashing for 5 Seconds. If the jumper is NOT removed then the system will TOTALLY reset and remove all stored information

B. Totally reset （remove all stored information）
Insert the jumper ST1 2-3 position→Green LED will flash→An audible beep→ Red LED will flash→An audible beep, all parameters reset→Return Insert the jumper ST1 to 1-2 position

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